

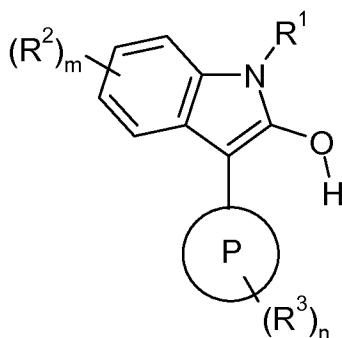
Amendments to the Claims

The listing of claims will replace all prior versions and listings of claims in the application.

Listings of claims

Claims 1 – 33 (cancelled)

34. (Previously presented) A compound having the formula Ia;



Ia

P represents a 6-membered heteroaromatic ring containing one or two heteroatoms;

R^1 is hydrogen;

R^2 is cyano;

R^3 is $(SO_2)NR^4R^5$;

wherein R^4 and R^5 may together form a 4-, 5-, 6- or 7-membered heterocyclic group containing one or more heteroatoms selected independently from N, O and S, wherein said heterocyclic group may optionally be substituted by a group Y;

R^8 and R^9 are independently selected from: hydrogen and C_{1-6} alkyl or R^8 and R^9 may together form a 5- or 6-membered heterocyclic group containing one or more heteroatoms, selected independently from N, O and S;

Y is selected from: oxo, C_{2-6} alkylOR⁸, C_{1-6} alkyl, C_{0-6} alkylaryl, C_{0-6} alkylheteroaryl, OR⁸ and C_{2-6} alkylNR⁸R⁹;

m is 1;

n is 1;

or a salt, or a tautomer thereof.

35. (cancelled).

36. (previously presented) A compound according to claim 34, wherein P is pyridine.

Claims 37 - 41 (cancelled).

42.(currently amended) A compound selected from:

3-[5-({4-[2-(Dipropylamino)ethyl]piperazin-1-yl}sulfonyl)pyridin-2-yl]-2-hydroxy-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-(5-{[4-(2-morpholin-4-ylethyl)piperazin-1-yl]sulfonyl}pyridin-2-yl)-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-(5-{[4-(2-pyrrolidin-1-ylethyl)piperazin-1-yl]sulfonyl}pyridin-2-yl)-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-(5-{[4-(2-methoxyethyl)piperazin-1-yl]sulfonyl}pyridin-2-yl)-1*H*-indole-6-carbonitrile hydrochloride, or

~~2-Hydroxy-*N*(3-methoxypropyl)-3-[5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;~~

3-[5-({4-[2-(Dimethylamino)ethyl]piperazin-1-yl}sulfonyl)pyridin-2-yl]-2-hydroxy-1*H*-indole-6-carbonitrile hydrochloride;

or a tautomer thereof, or a free base of any of foregoing hydrochloride or a pharmaceutically acceptable salt of any said free base.

Claims 43 and 44 (cancelled)

45. (currently amended) A pharmaceutical formulation comprising as an active ingredient a therapeutically effective amount of [[the]] a compound according to claim 34 in association with at least one pharmaceutically acceptable carriers or diluents carrier or diluent.

46. (cancelled)

47. (previously presented) A method of prevention and/or treatment of conditions associated with glycogen synthase kinase-3, comprising administering to a mammal, including man in need of such prevention and/or treatment, a therapeutically effective amount of a compound of formula Ia as defined in claim 34.

48. (previously presented) A method of prevention and/or treatment of a human or animal suffering from dementia, Alzheimer's Disease, Parkinson's Disease, Frontotemporal dementia Parkinson's Type, Parkinson dementia complex of Guam, HIV dementia, diseases with associated neurofibrillar tangle pathologies and dementia pugilistica, by administering to such a mammal, a therapeutically effective amount of a compound of formula Ia as defined in claim 34.

49. (previously presented) The method according to claim 48, wherein the prevention and/or treatment is for Alzheimer's Disease.

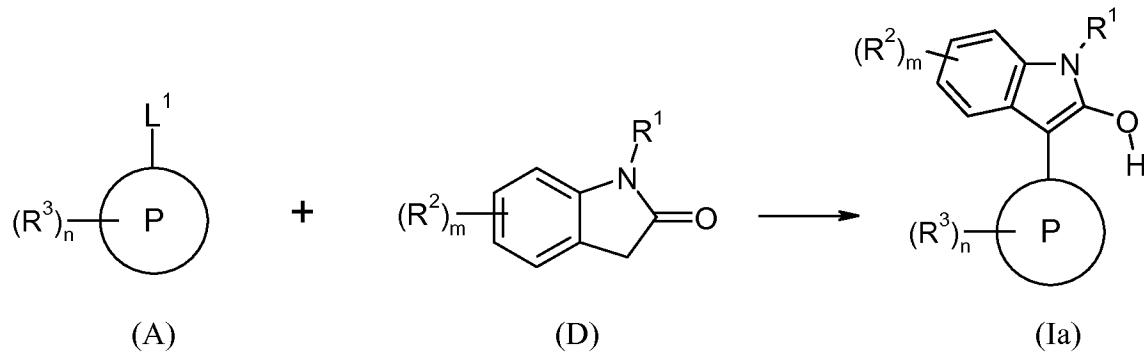
50. (previously presented) A method of prevention and/or treatment of a human or animal suffering from amyotrophic lateral sclerosis, corticobasal degeneration, Down syndrome, Huntington's Disease, postencephalitic parkinsonism, progressive supranuclear palsy, Pick's Disease, Niemann-Pick's Disease, stroke, head trauma and other chronic neurodegenerative diseases, Bipolar Disease, affective disorders, depression, schizophrenia, cognitive disorders, hair loss, Type I and Type II diabetes, diabetic neuropathy and diabetes related disorders, by administering to such a mammal, a therapeutically effective amount of a compound of formula Ia as defined in claim 34.

51. (previously presented) A method of prevention and/or treatment of a human or animal suffering from predemented states, Mild Cognitive Impairment, Age-Associated Memory Impairment, Age-Related Cognitive Decline, Cognitive Impairement No Dementia, mild cognitive decline, mild neurocognitive decline, Late-Life Forgetfulness, memory impairment and cognitive impairment, vascular dementia, dementia with Lewy bodies, Frontotemporal dementia

and androgenetic alopecia, by administering to such a mammal, a therapeutically effective amount of a compound of formula Ia as defined in claim 34.

52. (previously presented) A method of prevention and/or treatment of a human or animal suffering from bone-related disorders, by administering to such a mammal, a therapeutically effective amount of a compound of formula Ia as defined in claim 34.

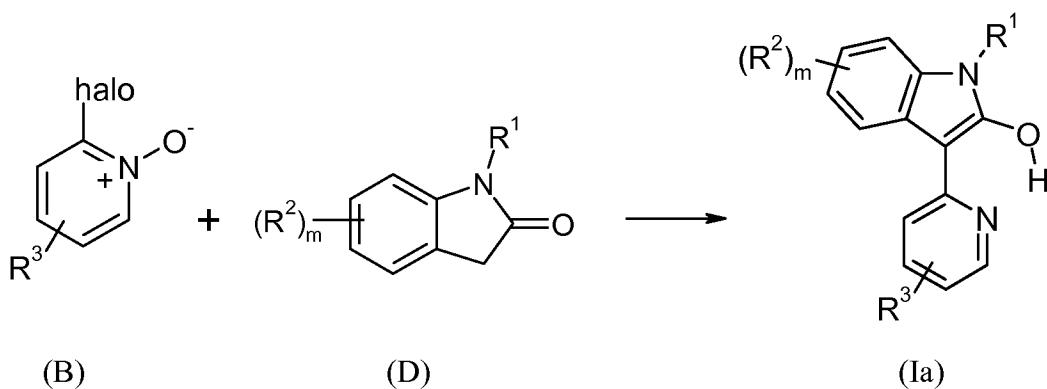
53. (previously presented) A process for the preparation of a compound of formula Ia according to claim 34, wherein P, R¹, R² and R³, m and n, unless otherwise specified, are as defined in claim 34, comprising reacting a compound of formula A, wherein L¹ is a leaving group, with a compound of formula D to form a compound of formula Ia;



said reaction being carried out in an appropriate solvent at a temperature between +10 °C and +150 °C.

54. (previously presented) A process for the preparation of a compound of formula Ia according to claim 34, wherein R¹, R² and R³ and m, are unless otherwise specified as defined in claim 34, comprising:

reacting a compound of formula B with a compound of formula D to form a compound of formula Ia;



said reaction being carried out in an appropriate solvent at a temperature between +10 °C and +150 °C.

Claims 55 - 59 (cancelled).

60. (currently amended) A compound selected from:

2-Hydroxy-3-{5-[4-methylpiperazin-1-yl]carbonyl}pyridin-2-yl]-1*H*-indole-6-carbonitrile hydrochloride;

6-(6-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-(2-morpholin-4-ylethyl)nicotinamide hydrochloride;

6-(6-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-methyl-*N*-(2-pyrrolidin-1-ylethyl)nicotinamide hydrochloride;

6-(6-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-(2-(dimethylamino)ethyl)-*N*-methylnicotinamide hydrochloride;

6-(6-Cyano-2-hydroxy-1*H*-indol-3-yl)-*N*-(2-pyrrolidin-1-ylethyl)pyridine-3-sulfonamide hydrochloride;

2-Hydroxy-3-[5-(piperazine-1-sulfonyl)pyridin-2-yl]-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-*N*-(2-methoxyethyl)-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-(pyridin-2-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-(2-thienylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-N-[2-(2-oxoimidazolidin-1-yl)ethyl]-1*H*-indole-5-carboxamide hydrochloride;

N-[2-(Acetylamino)ethyl]-2-hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(2-methoxybenzyl)-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-[4-(trifluoromethyl)benzyl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-[2-(trifluoromethyl)benzyl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-[2-(trifluoromethoxy)benzyl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-[4-(trifluoromethoxy)benzyl]-1*H*-indole-5-carboxamide hydrochloride;

3-{5-[(Diethylamino)methyl]pyridin-2-yl}-2-hydroxy-*N*-(2-thienylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

3-{5-[(Diethylamino)methyl]pyridin-2-yl}-2-hydroxy-*N*-(pyridin-2-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

3-{5-[(Diethylamino)methyl]pyridin-2-yl}-2-hydroxy-*N*-(2-methoxyethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-(tetrahydrofuran-2-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

N-Benzyl-2-hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-*N*-propyl-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(2-methoxyphenyl)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(4-methoxyphenyl)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-N-(pyridin-3-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-N-(pyridin-4-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-N-(pyridin-2-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

N-[2-(Aminosulfonyl)ethyl]-2-hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-[2-(methylsulfonyl)ethyl]-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

3-(5-Cyanopyridin-2-yl)-2-hydroxy-*N*-{2-[(4-methylpiperazin-1-yl)sulfonyl]ethyl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-sulfonamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-6-carboxamide hydrochloride;

~~3-[5-[(4-[(2-Dimethylamino)ethyl]piperazin-1-yl)sulfonyl]pyridin-2-yl]-2-hydroxy-1*H*-indole-6-carbonitrile hydrochloride;~~

2-Hydroxy-*N*-(2-methoxyethyl)-3-(5-nitropyridin-2-yl)-1*H*-indole-5-carboxamide hydrochloride;

N-(2-Cyanoethyl)-2-hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-[2-(1*H*-imidazol-4-yl)ethyl]-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

N-Benzyl-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-propyl-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(2-methoxyethyl)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

N-[2-(Dimethylamino)ethyl]-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

3-(5-Cyanopyridin-2-yl)-2-hydroxy-*N*-(2-methoxyethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(piperidin-1-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-methyl-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

6-Bromo-2-hydroxy-*N*-methyl-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

6-Bromo-2-hydroxy-*N*-isopropyl-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

6-Bromo-2-hydroxy-*N*-(2-methoxyethyl)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

6-Bromo-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-(tetrahydrofuran-2-ylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

6-Bromo-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-(2-pyrrolidin-1-ylethyl)-1*H*-indole-5-carboxamide hydrochloride;

N-[3-(Dimethylamino)propyl]-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(2-methoxyethyl)-3-[5-(morpholin-4-ylsulfonyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-pyridin-3-yl-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(2-methoxybenzylamide)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(3-methoxybenzylamide)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-(tetrahydro-2*H*-pyran-4-yl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-*N*-(4-methoxybenzylamide)-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

N-(Cyanomethyl)-2-hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

N-(2-Furylmethyl)-2-hydroxy-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-[5-(piperidin-1-ylmethyl)pyridin-2-yl]-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-{5-[(3-oxopiperazin-1-yl)methyl]pyridin-2-yl}-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-[6-(2-morpholin-4-ylethoxy)pyrimidin-4-yl]-1*H*-indole-6-carbonitrile hydrochloride;

3-{6-[2-(Diisopropylamino)ethoxy]pyrimidin-4-yl}-2-hydroxy-1*H*-indole-6-carbonitrile hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxylic acid hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-[3-(2-oxopyrrolidin-1-yl)propyl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-(2-thienylmethyl)-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-[2-(2-oxoimidazolidin-1-yl)ethyl]-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-[2-(2-thienyl)ethyl]-1*H*-indole-5-carboxamide hydrochloride;

N-[2-(Acetylamino)ethyl]-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

N-(2-Cyanoethyl)-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

N-[2-(Aminosulfonyl)ethyl]-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

N-(Cyanomethyl)-2-hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carboxamide hydrochloride;

2-Hydroxy-3-[5-(4-methylpiperazine-1-sulfonyl)pyridin-2-yl]-1*H*-indole-5-carboxylic acid carbamoylmethylamide hydrochloride;

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-*N*-[2-(methylsulfonyl)ethyl]-1*H*-indole-5-carboxamide hydrochloride;

Methyl 3-fluoro-3-[5-(morpholin-4-ylmethyl)pyridin-2-yl]-2-oxoindoline-5-carboxylate hydrochloride;

3-(5-Diethylaminomethyl-pyridin-2-yl)-2-hydroxy-1*H*-indole-5-carboxylic acid (2-methanesulfonyl-ethyl)-amide hydrochloride;

2-Hydroxy-3-[5-(4-methyl-piperazin-1-ylmethyl)-pyridin-2-yl]-1*H*-indole-5-carboxylic acid (thiophen-2-ylmethyl)-amide dihydrochloride, or

2-Hydroxy-3-[5-(4-methyl-piperazin-1-ylmethyl)-pyridin-2-yl]-1*H*-indole-5-carboxylic acid benzylamide dihydrochloride;

or a free base of any foregoing hydrochloride, or a tautomer thereof, or a pharmaceutically acceptable salt of any said free base.

61. (previously presented) A compound selected from:

2-Hydroxy-3-{5-[(4-methylpiperazin-1-yl)sulfonyl]pyridin-2-yl}-1*H*-indole-5-carbonitrile;

3-(4-Cyanopyridin-2-yl)-2-hydroxy-*N*-(2-methoxyethyl)-1*H*-indole-5-carboxamide;

2-Hydroxy-3-[5-(4-methylpiperazine-1-sulfonyl)pyridin-2-yl]-1*H*-indole-5-carboxylic acid (2-carbamoylethyl)amide;

2-Hydroxy-3-[5-(4-methyl-piperazin-1-ylmethyl)-pyridin-2-yl]-1*H*-indole-5-carboxylic acid methyl ester;

or a tautomer thereof, or a pharmaceutically acceptable salt thereof.

62. (previously presented) A pharmaceutical formulation comprising as an active ingredient a therapeutically effective amount of a compound according to claim 60 or 61 in association with a pharmaceutically acceptable carrier or diluent.

63. (previously presented) A method of preventing or treating conditions associated with the action of glycogen synthase kinase-3, comprising administering to a subject in need of such prevention or treatment, a therapeutically effective amount of a compound according to Claim 60 or 61.

64. (previously presented) A method according to claim 63 for preventing or treating dementia, Alzheimer's Disease, Parkinson's Disease, Frontotemporal dementia Parkinson's Type, Parkinson dementia complex of Guam, HIV dementia, diseases with associated neurofibrillar tangle pathologies and dementia pugilistica.

65. (previously presented) A method according to claim 64, for preventing or treating Alzheimer's Disease.

66. (previously presented) A method according to claim 63 for preventing or treating of a subject suffering from amyotrophic lateral sclerosis, corticobasal degeneration, Down's syndrome, Huntington's Disease, postencephalitic parkinsonism, progressive supranuclear palsy, Pick's Disease, Niemann-Pick's Disease, stroke, head trauma and other chronic neurodegenerative diseases, Bipolar Disease, affective disorders, depression, schizophrenia, cognitive disorders, hair loss, Type I and Type II diabetes, diabetic neuropathy and diabetes related disorders.

67. (previously presented) A method according to claim 63 for preventing or treating a subject suffering from a predemented state, Mild Cognitive Impairment, Age-Associated Memory Impairment, Age-Related Cognitive Decline, Cognitive Impairement No Dementia, mild cognitive decline, mild neurocognitive decline, Late-Life Forgetfulness, memory

impairment and cognitive impairment, vascular dementia, dementia with Lewy bodies, Frontotemporal dementia and androgenetic alopecia.

68. (previously presented) A method according to claim 63 for preventing or treating a subject suffering from a bone-related disorder.